

RESEARCH FUNDING AT ALBERTA UNIVERSITIES 1996-1997 REPORT

Alberta Advanced Education and Career Development University Research Branch November 1998 RESEARCH FUNDING AT
ALBERTA UNIVERSITIES
1996-1997 REPORT

Albertackeloncel Education and Careta Development University Research Breach November 1908

TABLE OF CONTENTS

I	Introduction	1
II	Figure 1. Sponsored Research Revenue at Alberta Universities: 1992/93 to1996/97	2
III	Figure 2. Sponsored Research Revenue: U of A and U of C 1992/93 to 1996/97	3
IV	Figure 3. Sponsored Research Revenue by Source: 1996/97	4
V	Figure 4. Alberta Heritage Foundation for Medical Research (AHFMR) Revenue	5
VI	Figures 5a & 5b. Proportional Industry and Non-Profit Funding; Percentage Changes of Research Funding by Source (3-Year Comparisons)	6
VII	Figures 6a & 6b. Research Revenues for Alberta and Peer Universities: 1993/96 Rolling Averages	7
VIII	Figure 7. Alberta Faculty Members' Granting Council Success Rates: 1994/97 Rolling Averages	8
IX	Figure 8. Approximate Percentage Distribution of Total Sponsored Research Expenditures	9
X	Advanced Education and Career Development Support for Research at Alberta Universities	10
XI	Commercialized Research Revenue	11
XII	Reporting Standards / Sources	12
XIII	Appendix: Table 1. Research Funding Revenue: All Sources 1994/95 to 1996/97 Tables 2 to 5. Percentage Distribution of Total Research Expenditures to Faculties: All Universities 1994/95 to 1996/97	13 14

Digitized by the Internet Archive in 2017 with funding from University of Alberta Libraries

Research Funding at Alberta Universities 1996/97 Report

Introduction

The Research Funding Report has been redesigned this year to make it more accessible, illustrative and current. To this end, tables have been reformatted and more graphs have be added to portray data clearly and, instead of including a highlights page, key narrative points have been added to graphs. Information on recent provincial initiatives has also been included in this year's report, as the IIPP and the REE are making substantial contributions to total research funding at Alberta universities.

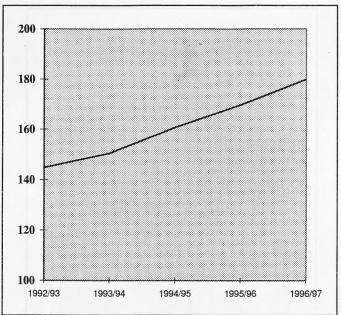
Research Funding at Alberts Labor sifes 1996/97 Report

Indianamental

The Research Funding Separation between the growten production in more accessible, illustrative and current. To this circl, salies may been reform into and more on particular to commy data elegancy and, instead of including a highlights constant more against more been adjective grant instead of including a highlights constant to make the limit of the product as the illimited on refer provincial instead of the product as the illimited on the REE are making substantial contribution to particular to the product.

Figure 1: Sponsored Research Revenue at Alberta Universities: 1992/93 to 1996/97

(Millions)



Sources: U of A, Research Grants Office; U of C, Financial Services; U of L, Financial Services; AU, Office of the VP, Academic

- During fiscal year 1996/97, approximately \$179.8 million in direct external funding was received by Alberta's four universities in support of research.
- Total sponsored research funding from all sources to Alberta's university system has been growing by approximately 5.5% per year for the last 5 years.
- Total research funding to all four Alberta universities per year for the last 5 years is as follows:

1992/93: \$144.8 million 1993/94: \$150.4 million 1994/95: \$160.7 million 1995/96: \$169.7 million 1996/97: \$179.8 million Pigure 1: Sponsored Bessarek De vor (cut Alberta Universities: 1/92/93/10/1999)





- Duran friend year 1996/97, approximately \$170.8 million in thest external handing was remained by
- Total spansored research funding from all sources to Allerta's university assembles been growing to the by approximately 5.5% per year for the last 5 years.
 - to wallon on at a many country of their address to propose the country of the cou

mailies 5.0212 :46\E1

modium a Octo (300)

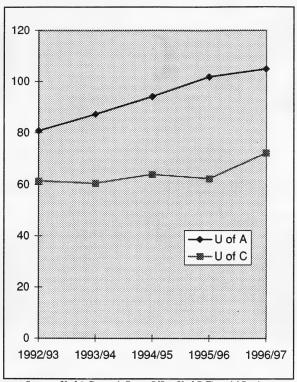
1994/95: \$160.7 million

1995/96: \$169.7 million

1996/97: \$179.8 million

Figure 2: Sponsored Research Revenue: U of A & U of C 1992/93 to 1996/97

(Millions)

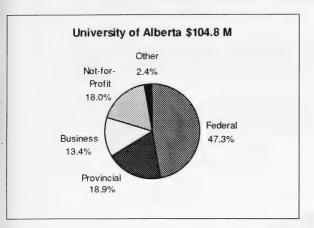


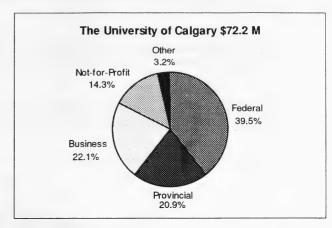
Sources: U of A, Research Grants Office; U of C, Financial Services

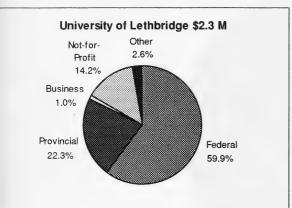
- During fiscal year 1996/97, the U of A and the U of C received approximately \$104.8 million and \$72.2 million, respectively, in support of research.
- Total research funding from all sources to the U of A has increased by approximately 30% since 1992/93. The U of C's funding has increased by about 18% during the same period.
- During fiscal year 1996/97, the U of L received approximately \$2.2 million and AU received about \$487,000 in support of research. Both smaller universities have been successful in maintaining their respective levels of support.

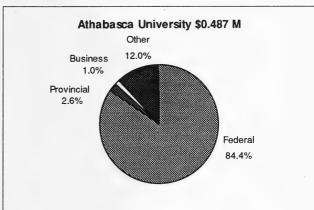


Figure 3. Sponsored Research Revenue by Source: 1996/97









Sources: U of A, Research Grants Office; U of C, Financial Services; U of L, Financial Services; AU, Office of the VP, Academic

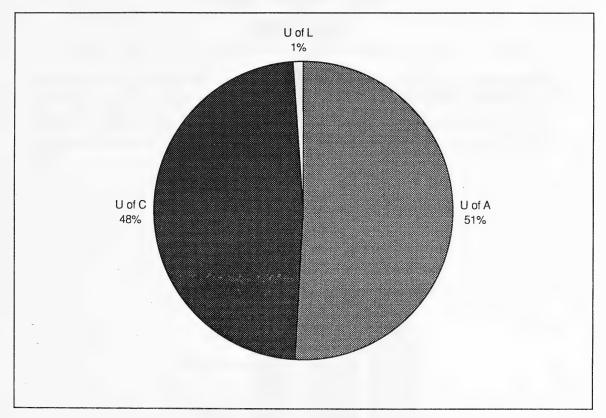
*"Other" includes foreign and miscellaneous sources

- The University of Alberta received approximately \$104.8 million in research funding in 1996/97, a 3% increase from the 1995/96 total (\$101.7 million).
- The University of Calgary received over \$72.2 million in research funding in 1996/97, a 10.8% increase from the 1995/96 total (\$65.2 million).
- The University of Lethbridge and Athabasca University both maintained their respective research funding levels (see Table 1 for details).
- Funding to the U of A from provincial sources was about \$19.8 million, a decrease of approximately 8.3%, and federal funding was about \$49.5 million, a decrease of approximately 1.2%. Funding to the U of C from provincial sources was about \$15.1 million, an increase of approximately 12.6%, and federal funding was about \$28.5 million, an increase of approximately 2.1%. Fluctuations in federal and provincial funding levels are expected, due to such things as program cycles and the completion of funded research projects. The U of L and AU underwent similar fluctuations in levels of government funding (see Table 1 for details).



Figure 4: Alberta Heritage Foundation for Medical Research (AHFMR) Revenue

- The AHFMR supports Alberta-based medical research through providing equipment grants, establishment
 grants to help researchers with new research programs, and through funding for other aspects of medical
 research.
- AHFMR's support and leadership has resulted in millions of dollars of support to Alberta universities and
 research hospitals, and has enabled Alberta to become one of the ten top medical research centres in North
 America.

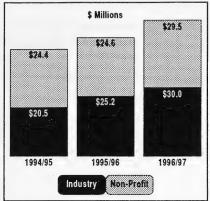


Sources: U of A, Research Grants Office; U of C, Financial Services; U of L, Financial Services

- During fiscal year 1996/97, the AHFMR provided approximately \$13.4 million and \$12.6 million to the U of A and the U of C respectively. AHFMR support to Alberta's universities increases yearly (see Table 1 in appendix).
- During the same fiscal year, the AHFMR provided \$271,000 to the U of L—a significant increase over past amounts to the U of L from this source (i.e., a 102% increase over the 1995/96 amount of \$134.000).



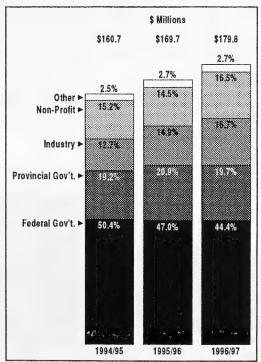
Figure 5a: Industry and Non-Profit Organizations Sponsored Research



Sources: U of A, Research Grants Office; U of C, Financial Services; U of L, Financial Services; AU, Office of the VP, Academic

- The proportion of sponsored research funding from industry and non-profit sources has grown, with these sources making up about 28% of total sponsored funding in 1994/95 and, in 1996/97, making up just over 33%, or almost \$60 million of the \$179.8 million total.
- The level of sponsored research funding provided to universities by industry and non-profit sources is an
 indicator of the relevance and importance of the universities' research effort to the community and business
 sector.

Figure 5b: Total Sponsored Research Funding



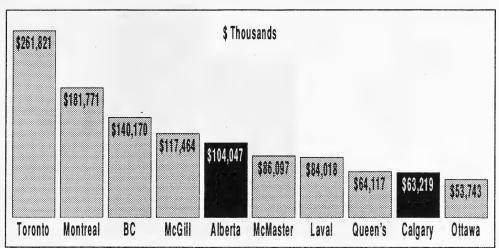
Sources: U of A, Research Grants Office; U of C, Financial Services; U of L, Financial Services; AU, Office of the VP, Academic

The proportional contribution of government-sponsored research funding within Alberta's university system
declined by about six percent between 1994/95 and 1996/97. In contrast, the proportion of funding from
industry and non-profit sources grew by about five percent.



Figure 6a. U of A / U of C & Peers: Total Sponsored Research Revenues 1993/96 Rolling Averages

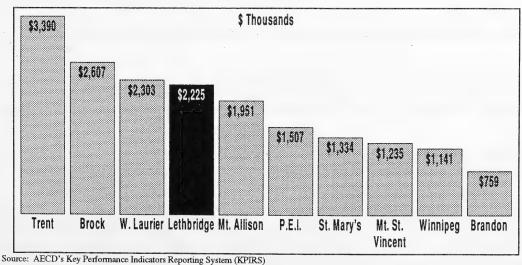
Advanced Education and Career Development's Key Performance Indicators Reporting System (KPIRS) collects data on Alberta universities and peer institutions in Canada. The data represented in the two figures below is derived from this source.



Source: AECD's Key Performance Indicators Reporting System (KPIRS)

- Based on 1993/1996 rolling averages, the University of Alberta ranked 5th and The University of Calgary ranked 9th among a peer group of sixteen research intensive universities in the level of funding received for sponsored research.
- The six peers not represented above are: Dalhousie, Manitoba, Memorial, Saskatchewan, Sherbrooke, and Western.

Figure 6b. U of L and Peers: Total Sponsored Research Revenues: 1993/96 Rolling Averages

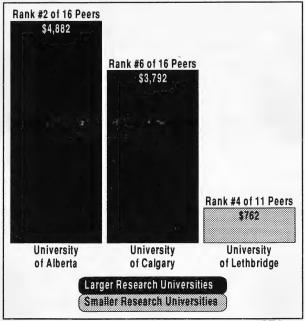


The University of Lethbridge ranked 4th among a peer group of eleven smaller universities in terms of sponsored research income.



Figure 7. Granting Council Success Rates: 1994/97 Rolling Averages

"Granting Council Success Rates" is a good measure of the quality of Alberta's university research. This
indicator compares Alberta institutions to their national peers in terms of the level of competitive peerreviewed sponsored research funding secured from the three federal research granting councils.

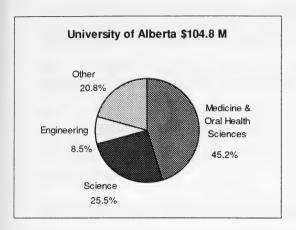


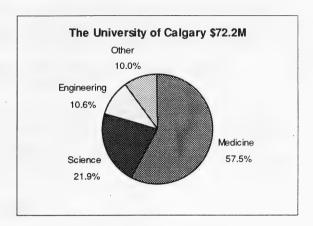
Source: AECD's Key Performance Indicators Reporting System (KPIRS)

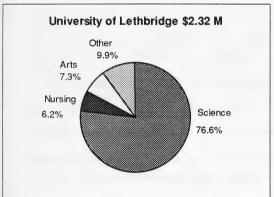
- In terms of 1996/97 granting council funding per faculty member, the U of A and the U of C rank second and sixth, respectively, among a peer group of sixteen larger research universities.
- The U of L ranks fourth among eleven peers of comparable size.
- These rankings demonstrate the relative quality of Alberta universities as compared to the quality of peers across Canada.
- The top five ranked institutions in the U of A / U of C peer group are: McGill University (first) with \$5,493 per faculty member; Queen's University (third) with \$4,472 per faculty member; University of British Columbia (fourth) with \$4,432 per faculty member; and McMaster University (fifth) with \$4,419 per faculty member.
- The top five ranked institutions in the U of L peer group are: Trent University (first) with \$1,203 per faculty member; Mt. Allison University (second) with \$805 per faculty member; Brock University (third) with \$775 per faculty member; and St. Mary's University (fifth) with \$643 per faculty member.
- Note on source: The KPIRS' "Council Success Rates" indicator includes the aggregate dollar value of new grants awarded by the three national councils in the general category of "operating" or "research" grants, for research programs carried out primarily by individuals or by small teams of faculty members. Excluded are: Networks of Centres of Excellence grants, major collaborative/group grants, equipment grants, infrastructure support, stipend awards, scholarships or fellowships, targeted or joint-funded research projects, or other special purpose awards. These other competitive awards are excluded to ensure comparable data on new awards per individual faculty member.

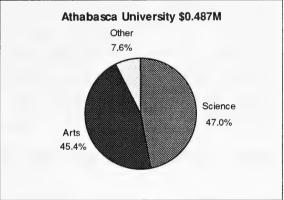


Figure 8. Approximate Percentage Distribution of Total Sponsored Research Expenditures: 1996/97









Sources: U of A. Research Grants Office: U of C. Financial Services: U of L. Financial Services: AU. Office of the VP. Academic

*See Tables 2-5 in appendix for 1994/95 to 1996/97 comparative proportional allocations to all faculties at all universities.

- At both the University of Alberta and The University of Calgary, the largest proportion of research funding was secured by the Faculties of Medicine (45.2% at the U of A and 57.5% at the U of C). At both universities, the Faculties of Science claimed the second largest share of funding (25.5% at the U of A and 21.9% at the U of C), followed by the Faculties of Engineering (8.5% at the U of A and 10.6% at the U of C). These proportional shares follow a consistent historical pattern.
- The proportional allocation of research funding to faculties at the University of Lethbridge also follows a consistent historical pattern, the greatest share of funding being secured by the Faculty of Science—a share that has increased annually (54.8% in 1994/95, 64.1% in 1995/96 and 76.6% in 1996/97). The U of L's distribution of funding to faculties also shows a recent trend of the Faculty of Education's share of funding decreasing while the Faculty of Nursing's share increases (see Table 4 for details).
- It should be noted that funding amounts vary by discipline but the intensity of research in faculties isn't necessarily commensurate with monetary allocations to faculties. For example, research activities in the Arts, Humanities, and Social Sciences are less costly to conduct; therefore, the intensity of such research is not necessarily reflected in monetary terms.



Advanced Education and Career Development Support for Research at Alberta Universities

In addition to the research funding sources noted in this report, the research infrastructure at Alberta universities is supported by Advanced Education and Career Development operating grants and through recently implemented programs, such as the Intellectual Infrastructure Partnership Program and the Research Excellence Envelope.

The total 1996/97 base operating grant for the three residential universities was about \$386.6 million, approximately 40% of which goes to supporting the research infrastructure.

The research component of AECD's Performance Envelope provides additional funding based on the extent to which Alberta universities meet an agreed upon subset of the department's research Key Performance Indicators, which involves comparisons with their respective peer universities and the level of support they received from communities and industries. Since the first such allocation was made for fiscal year 1997/98, this funding will be reported beginning next year.

Intellectual Infrastructure Partnership Program (IIPP)

Begun in 1997 with funding of \$15 million per annum, the IIPP is designed to increase research excellence and competitiveness of Alberta universities and research hospitals by investing strategically in their research infrastructure. Major objectives of the IIPP are to promote high quality university research through the development of institutional and collaborative centers of research excellence, and to encourage projects that strengthen the research infrastructure in areas of strategic importance to the province. A key objective of the IIPP is to help Alberta universities attract and retain high quality faculty and graduate students. The program funds, on average, 40% of total project costs and is designed to attract both private sector investment and Canada Foundation for Innovation funding. There is a category for projects that are selected in a competitive process and a category for allocating small equipment grants to the universities.

Since the first IIPP allocations were made in fiscal year 1997/98, these and future funding amounts in all IIPP categories will be reported beginning next year.

Research Excellence Envelope (REE)

Begun in 1996 with \$2 million per annum, which was increased to \$3.5 million in 1997, the REE is designed to reward and foster sustained research excellence at Alberta universities through providing funding to help recruit and retain high quality researchers and graduate students in areas of identified strengths. REE funds are allocated to the universities using a formula based on research quality and intensity. Funds are then allocated internally by the universities and are used for research infrastructure enhancements, such as equipment and labs, which support the research activities of newly recruited faculty.

1996-97: \$2 Million Grant		
University of Alberta	1,030,154	
University of Calgary	813,815	
University of Lethbridge	127,115	
Athabasca University	28,916	

It should be noted that operating grants, program and envelope funds are used to support the research infrastructure as opposed to supporting specific research projects. There is, however, a clear link between funding infrastructure and attracting external funding for research activities (i.e., the better the infrastructure, the greater the potential to attract sponsored funding).



Commercialized Research Revenue

Both the University of Alberta and The University of Calgary generate funding through the activities of their respective technology transfer organizations. The impact of university research is reflected in the successes of these organizations, in the growing number of licenses generating revenue, royalty revenues and spin-off companies. These successes give a sense of one of the impacts of university research as it is applied and transferred to business and industry.

The U of A's Industry Liaison Office (ILO) brought in \$4.2 million in licensing revenues for 1996/97, up more than 400% from the previous year. The majority of this revenue goes back into funding research activities. In addition, the ILO's commercialization achievements in 1996/97 are as follows: 82 new Reports of Invention were submitted; 66 patent applications were filed or continued; 26 new products and technologies were licensed; 103 licenses are active; 11 spin-off companies were formed; and the U of A and its spin-off companies hold more than 220 issued patents.

The U of C's wholly owned technology transfer company, University Technologies International Inc. (UTI), ranks fourth among Canadian universities generating royalty revenues from licensed technologies. In 1996/97, UTI distributed \$2.99 million in royalties, an increase of 27% over 1995/96. In addition, UTI attracted \$118,000 in Product Development Agreements to the U of C and contributed \$30,000 directly in post-graduate fellowships. In 1996/97, UTI executed 49 new deals, created its twelfth start-up company, brokered a \$17,000,000 investment in its start-up SemBioSys Genetics Inc., and has 75 licenses generating revenue from its portfolio of more than 300 patents.



Reporting Standards

The universities follow common approaches to most of their reporting. There are, however, a number of complexities that are receiving attention from the universities to explore standardized reporting for improved comparability. These include: investment earnings (primarily endowment) allocated to research expenditure, Networks of Centres of Excellence revenue, and clinical trials funding.

Future reports will include these sources of funding once reporting approaches have been standardized by the universities.

Sources

This year's report makes use of the department's Key Performance Indicators Reporting System data which, in some cases, has been substituted for the CAUBO data used in past reports. As well, new information derived from research indicators has been added to the report to illustrate other aspects of research funding, such as the granting council success rates of faculty members—rates which are relevant measures of the funding successes and quality of Alberta researchers. Including this and other KPIRS data serves to provide the report with current, provincially relevant information, such as how Alberta universities compare with their respective peer groups, and how Alberta researchers compare with researchers from other universities.

Aside from data derived from KPIRS, other sources of information contained in the report's tables and figures are as follows:

University of Alberta: Research Grants Office University of Calgary: Financial Services University of Lethbridge: Financial Services

Athabasca University: Office of the Vice-President, Academic



Table 1 SPONSORED RESEARCH FUNDING REVENUE (in thousands of dollars)

SOURCES			1994-95	1995-96	1996-97
GOVERNMENTS:	NSERC	Alberta	27,683	23,876	24,84
		Calgary	12,679	12,386	12,65
		Lethbridge	863	966	96
		Athabasca	25	21	2
	SSHRC	Alberta	2,459	2,952	3,71
	Donne	Calgary	1,016	940	93
F		Lethbridge	353	300	24
E		Athabasca	131	141	18
D	MRC	Alberta	15,042	16,873	15,67
E	WIKC	Calgary	12,349	11,529	11,87
R		Lethbridge	31	55	11,0
A		- Athabasca	51	33	·
L	Omurp	Alberta	4,767	6,371	5,25
L	OTHER				
		Calgary	3,167	3,080	3,05
		Lethbridge	143	89	5
	507************************************	Athabasca	285	260	20
	Subtotal	Alberta	49,951	50,072	49,41
		Calgary	29,246	27,935	28,5
		Lethbridge	1,390	1,410	1,33
		Athabasca	441	422	4
	AHFMR	Alberta	11,509	11,879	13,37
		Calgary	10,506	11,533	12,61
A L		Lethbridge Athabasca	104	134	27
В	OTHER	Alberta	6,172	9,791	6,49
E	O THER	Calgary	2,425	1,895	2,51
R		Lethbridge	106	158	22
T		Athabasca	17	4	1
A	Subtotal	Alberta	17,681	21,670	19,80
	Subtour	Calgary	12,931	13,428	15,12
		Lethbridge	210	292	49
		Athabasca	17	4	1
OTHER GOVER	NMENT	Alberta	1,249	1,734	1,72
OTHER GOVEN	TAIAIRIA	Calgary	478	512	48
		Lethbridge		61	40
		Athabasca	33	53	5
BUSINES	C	Alberta			
BUSINES	3		10,134	12,522	14,07
		Calgary	10,308	12,694	15,94
		Lethbridge	12		2
NOT TOP TO	0.000	Athabasca		5	
NOT FOR PR	OFIT	Alberta	14,336	14,987	18,91
		Calgary	9,664	9,161	10,35
		Lethbridge Athabasca	375	453	31
OTHER		Alberta	764	725	78
		Calgary	1,340	1,484	1,80
		Lethbridge	135	40	3
		Athabasca			3
Total		Alberta	94,115	101,710	104,84
		Calgary	63,967	65,214	72,23
Note: Totals ma	y not	Lethbridge	2,122	2,256	2,23
add due to rounding.		Athabasca	491	485	48

Sources:
The University of Lethbridge: Financial Services
The University of Calgary: Financial Services
University of Alberta: Research Grants Office
Athabasca University: Office of the Vice-President, Academic.



Table 2
Percentage Distribution of Total Sponsored Research Expenditures

University of Alberta

(Total Income: \$104.8 million)

	1994-95	1995-96	1996-97
Faculty			
Agriculture & Forestry	9.1%	8.4%	8.2%
Arts	1.9%	1.8%	2.2%
Business	0.4%	0.7%	0.5%
Dentistry	0.5%	**	**
Education	0.5%	0.6%	0.5%
Engineering	9.9%	8.9%	8.5%
Graduate Studies and Research	*	0.3%	0.3%
Interdisciplinary Research Units	0.4%	2.4%	4.0%
Law	0.3%	0.3%	0.2%
Medicine** and Oral Health Sciences	44.8%	46.6%	45.2%
Native Studies	*	*	*
Nursing	0.5%	0.7%	0.6%
Pharmacy & Pharmaceutical Services	1.6%	1.8%	1.9%
Physical Education & Recreation Administration	0.5%	0.8%	1.0%
Rehabilitation Medicine	0.5%	0.5%	0.8%
Faculte Saint-Jean	*	0.1%	*
Science	26.2%	23.9%	25.5%
Subtotal	96.3%	97.8%	99.4%
Support and Administration			
Subtotal	1.6%	2.2%	0.5%
Non-departmentalized Accounts			
Subtotal	2.1%	*	*
Total University	100.0%	100%	100%

^{*}less than 0.05%.

Source: Research Grants Office, University of Alberta.

^{**}Dentistry now included in this new category.



Table 3

Percentage Distribution of Total Sponsored Research Expenditures

The University of Calgary

(Total Income: \$72.2 million)

,	1994-95	1995-96	1996-97
Faculty			
Continuing Education	N/A	N/A	0.2%
Education	0.4%	0.4%	0.5%
Engineering	10.5%	10.6%	10.6%
Environmental Design	0.5%	0.6%	0.5%
Fine Arts	0.1%	0.0%	0.1%
General Studies	0.2%	0.3%	0.3%
Graduate Studies	0.1%	0.2%	0.2%
Humanities	0.3%	0.4%	0.6%
Law	0.1%	0.0%	0.0%
Management	1.0%	0.6%	0.8%
Medicine	59.6%	56.4%	57.5%
Nursing	0.2%	0.1%	0.1%
Physical Education/Kinesiology	1.6%	1.3%	1.5%
Science	19.9%	23.7%	21.9%
Social Sciences	3.4%	2.1%	2.6%
Social Work	0.5%	0.3%	0.2%
Subtotal	98.4%	97.0%	97.7%
Non-faculty			
Subtotal	1.2%	3.0%	2.3%
Total University	100.0%	100.0%	100.0%

^{*}less than 0.05%.

Source: The University of Calgary Controller's Office



Table 4

Percentage Distribution of Total Sponsored Research Expenditures

The University of Lethbridge

(Total Income: \$)

	1994-95	1995-96	1996-97
Faculty			
Arts & Science			
Arts	21.7%	17.9%	7.3%
Science	54.8%	64.1%	76.6%
Combined	76.5%	82.0%	83.9%
Education	11.6%	6.6%	0.9%
Fine Arts	0.0%	0.2%	1.6%
Management	0.3%	2.2%	0.4%
Nursing	0.2%	4.7%	6.2%
Subtotal	88.6%	95.7%	93.0%
Support	0.0%	0.0%	0.0%
Archives	0.0%	0.0%	0.0%
Art Gallery	0.0%	0.0%	0.0%
Continuing Education	0.0%	0.0%	0.0%
Library	0.0%	0.0%	0.0%
Subtotal	0.0%	0.2%	0.0%
Administration	11.4%	4.1%	7.0%
Subtotal	11.4%	4.1%	7.0%
Total University	100.0%	100.0%	100.0%

Source: The University of Lethbridge, Financial Services.

Notes:

- 1. Percentages may not add to 100% due to rounding.
- 2. Arts includes: Anthropology, Economics, English, History, Modern Languages, Native American Studies, Philosophy, Political Science, Sociology.
- 3. Science includes: Biological Sciences, Chemistry and Biochemistry, Geography, Mathematics and Computer Sciences, Physics, Physical Education and Kinesiology, Psychology and Neuroscience.
- 4. Fine Arts includes: Art, Music, Drama.
- 5. Physical Education and Kinesiology, and Psychology and Neuroscience have been reclassified to Science (formerly Art). 1994-95 and 1995-96 have been restated accordingly.



Table 5

Percentage Distribution of Total Sponsored Research Expenditures

Athabasca University

(Total Income: \$)

	1994-95	1995-96	1996-97
Arts	28.0%	34.0%	45.35%
Science	63.3%	55.0%	47.0%
Administration	6.7%	5.0%	3.5%
Other	2.0%	6.0%	4.15%
Total	100.0%	100.0%	100.0%

Source: Office of the Vice-President Academic, Athabasca University.









